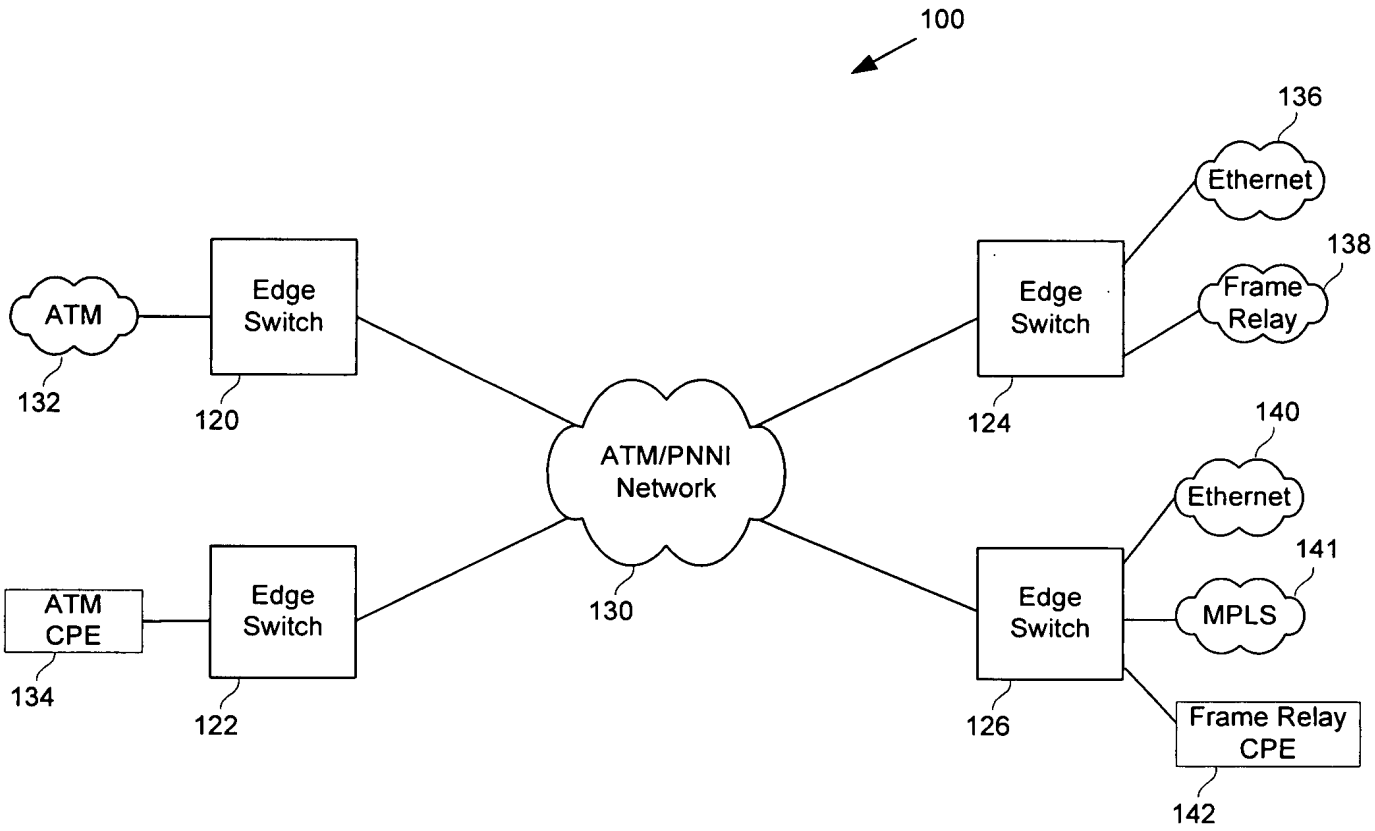
100
136
Ethernet
138
Frame Relay
ATM
Edge Switch
Edge Switch
132
120
124
ATM/PNNI Network
140
Ethernet
141
MPLS
ATM CPE
Edge Switch
Edge Switch
134
122
130
126
Frame Relay CPE
142

FIG 1A

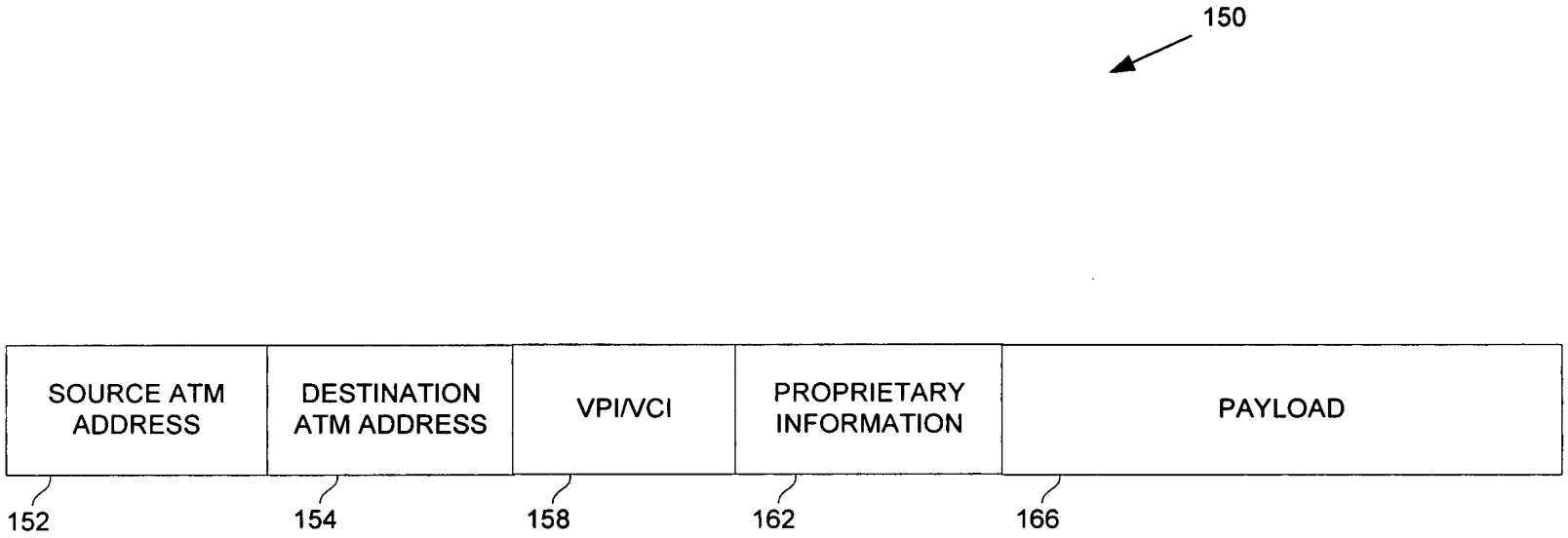

FIG 1B - ATM Packet Format Carrying Proprietary Information

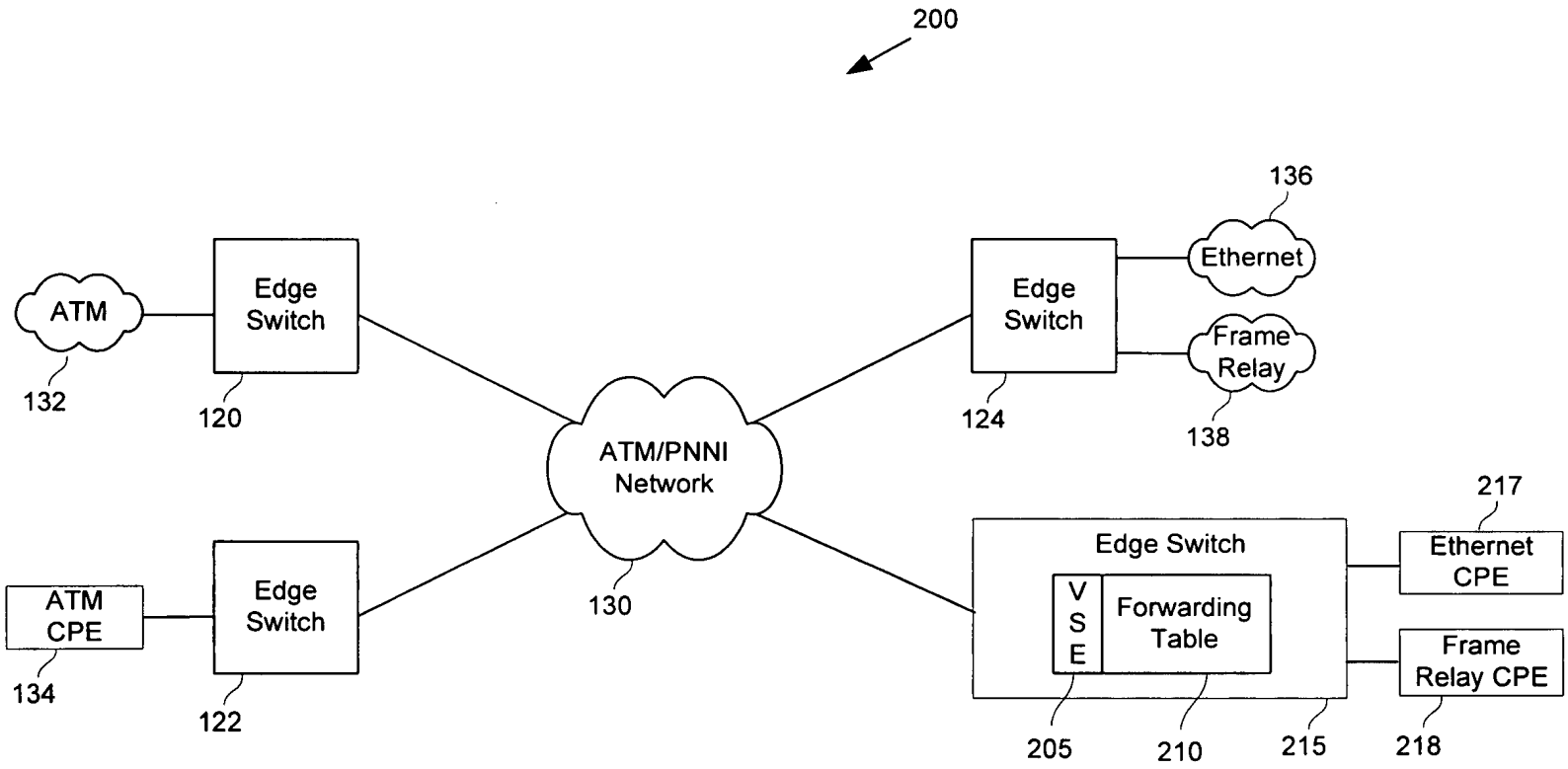

FIG 2A - Edge Switch with VSE

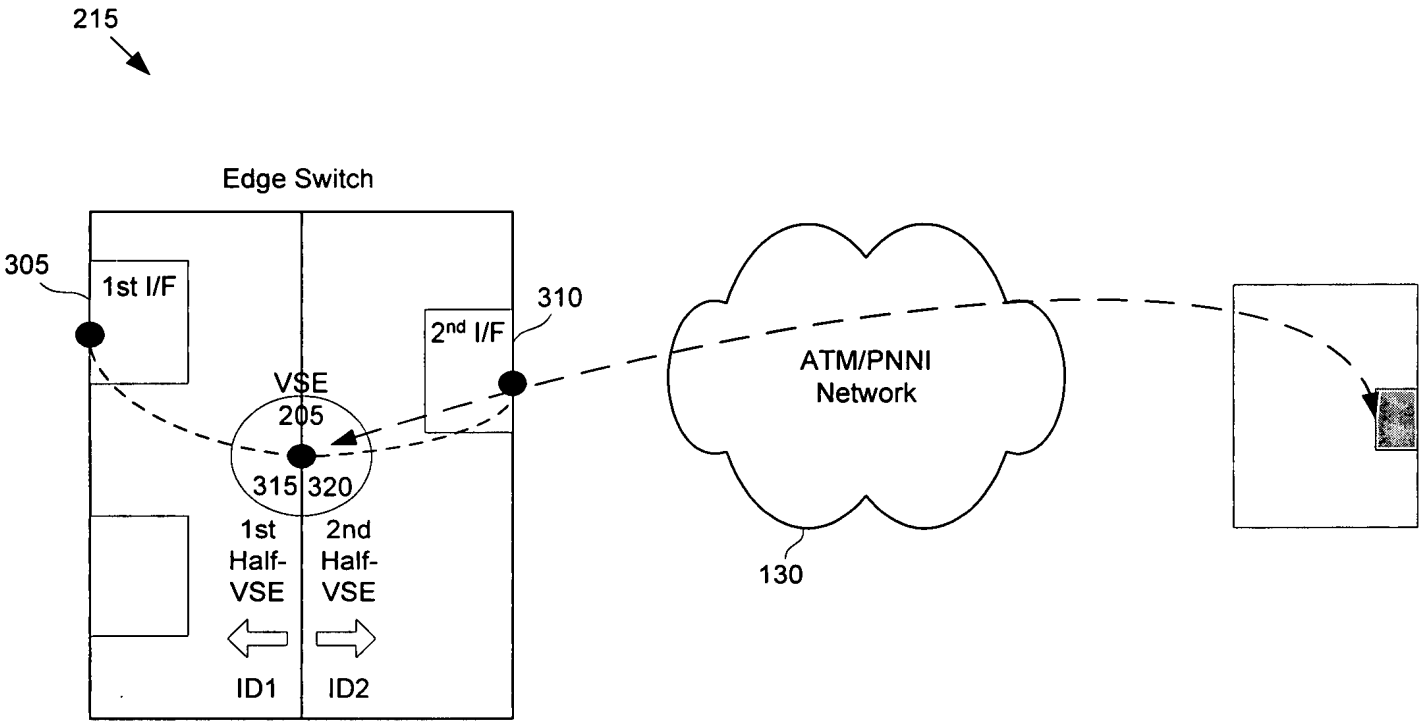

FIG 3A - VSE for Edge Service Interworking Application

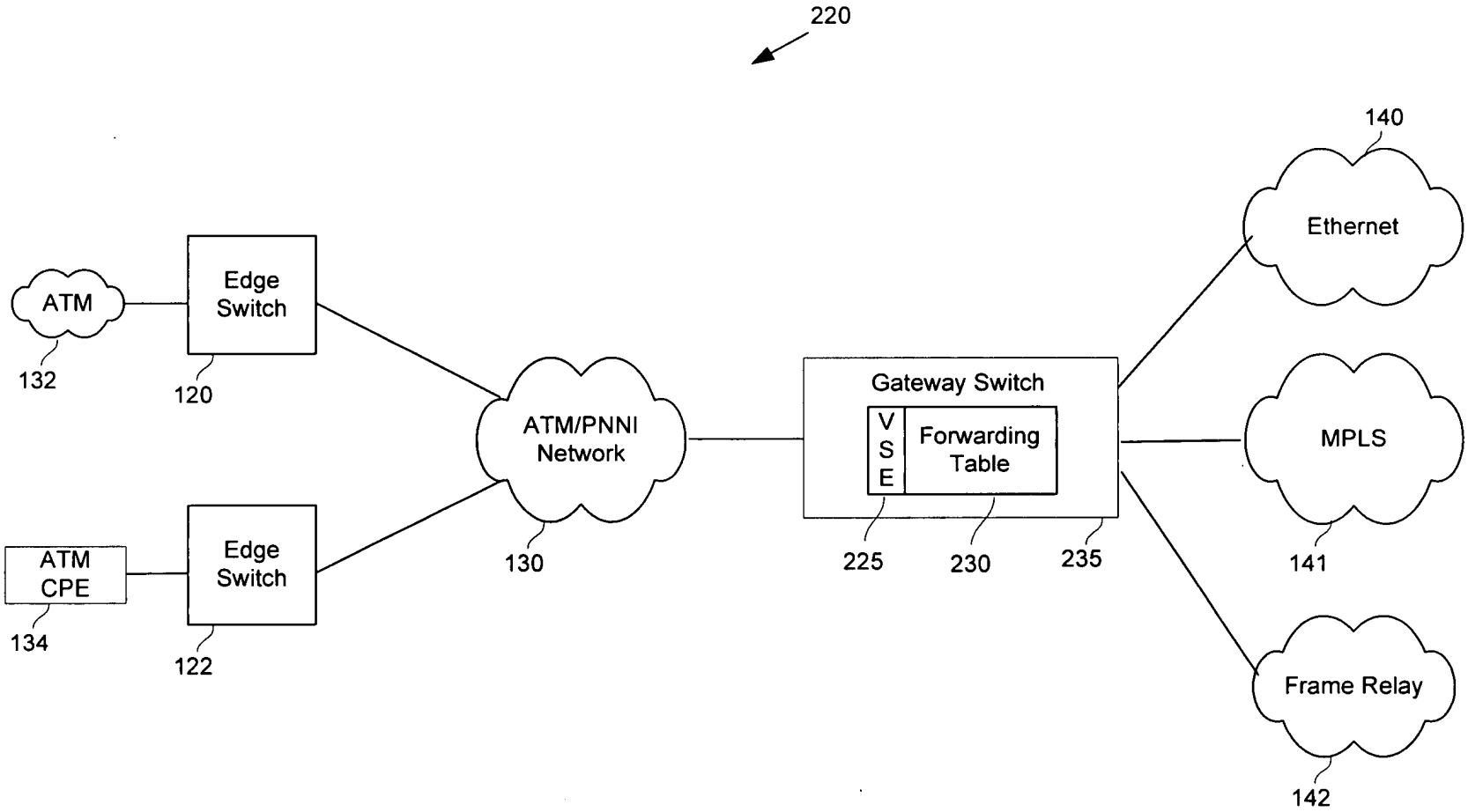

FIG 2B - Gateway Switch with VSE

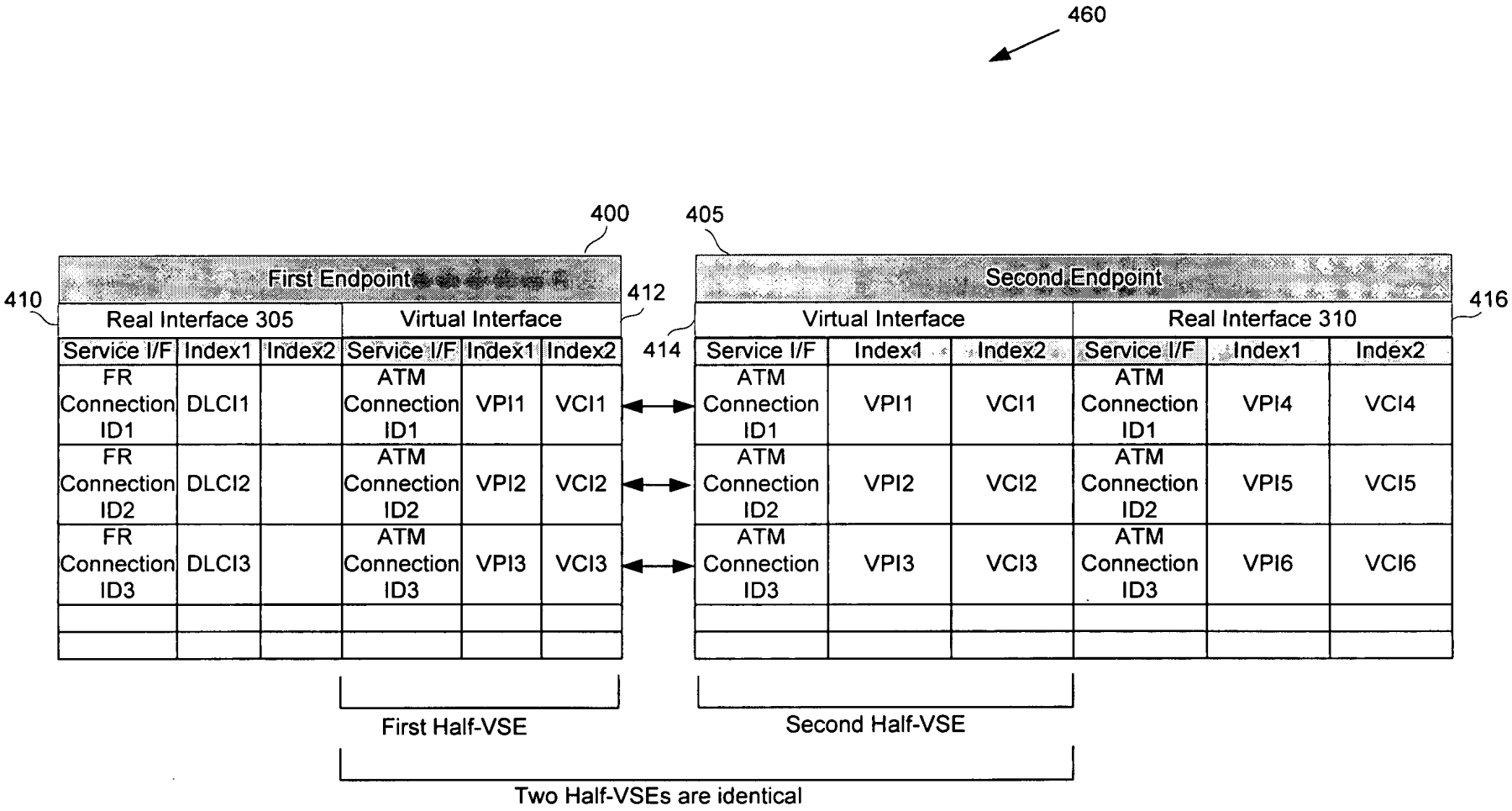

FIG 3B - Forwarding Tables for Edge Service Interworking

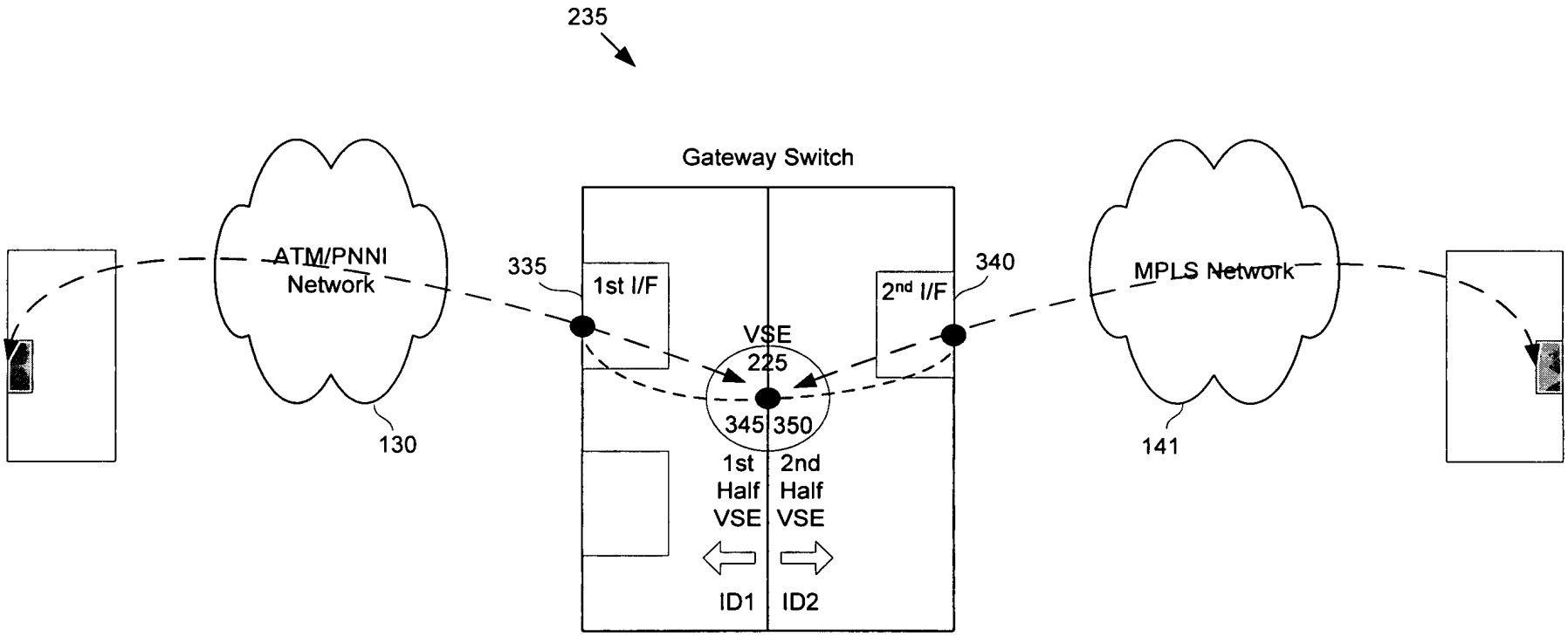

FIG 4A - VSE for Gateway Network Interworking Application

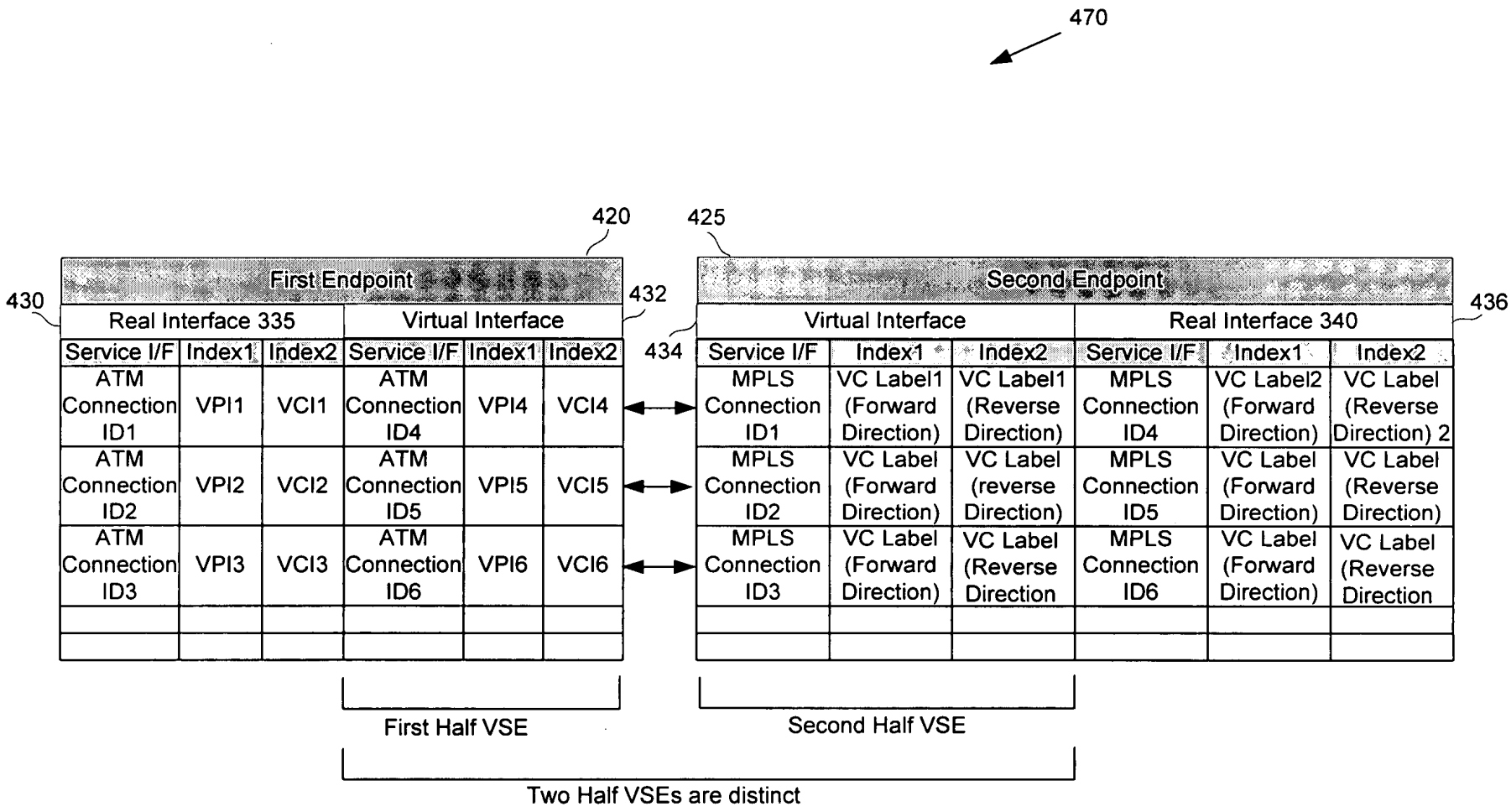

FIG 4B - Forwarding Tables for Gateway Inter-networking

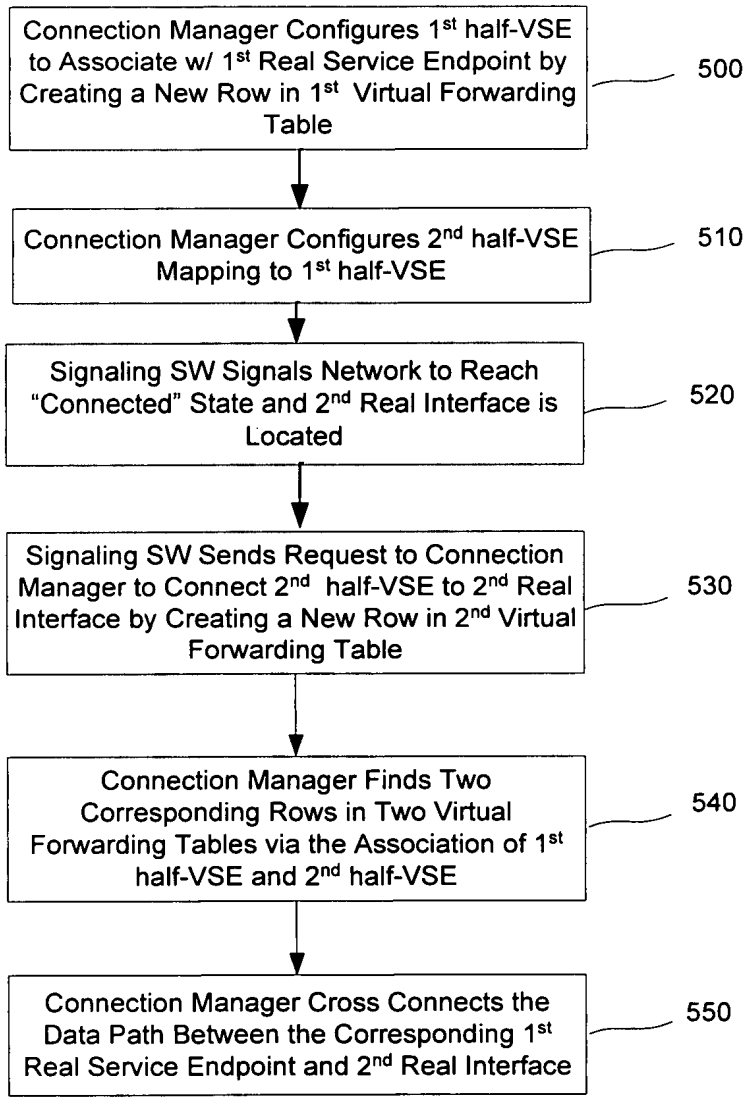
Connection Manager Configures 1st half-VSE to Associate w/ 1st Real Service Endpoint by Creating a New Row in 1st Virtual Forwarding Table
500
Connection Manager Configures 2nd half-VSE Mapping to 1st half-VSE
510
Signaling SW Signals Network to Reach "Connected" State and 2nd Real Interface is Located
520
Signaling SW Sends Request to Connection Manager to Connect 2nd half-VSE to 2nd Real Interface by Creating a New Row in 2nd Virtual Forwarding Table
530
Connection Manager Finds Two Corresponding Rows in Two Virtual Forwarding Tables via the Association of 1st half-VSE and 2nd half-VSE
540
Connection Manager Cross Connects the Data Path Between the Corresponding 1st Real Service Endpoint and 2nd Real Interface
550

FIG 5 - Establishing a Connection - Edge Service Interworking Application

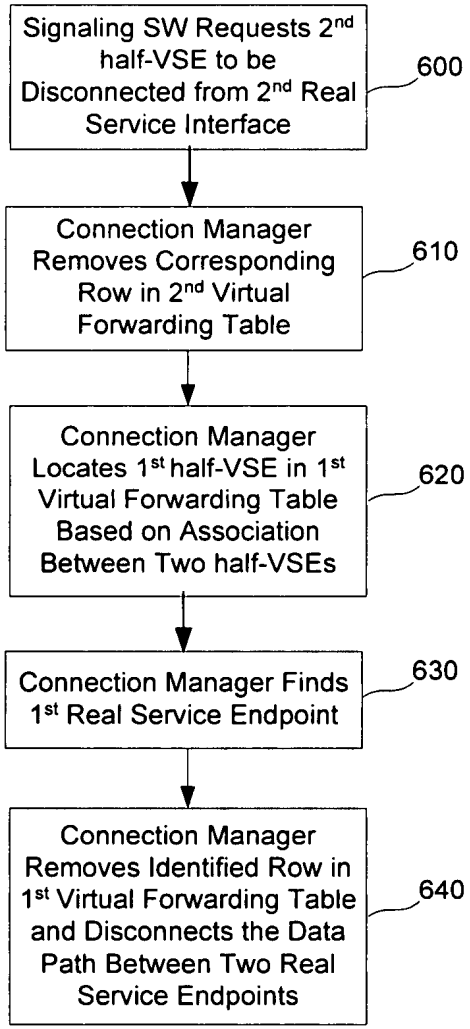
Signaling SW Requests 2nd half-VSE to be Disconnected from 2nd Real Service Interface
600
Connection Manager Removes Corresponding Row in 2nd Virtual Forwarding Table
610
Connection Manager Locates 1st half-VSE in 1st Virtual Forwarding Table Based on Association Between Two half-VSEs
620
Connection Manager Finds 1st Real Service Endpoint
630
Connection Manager Removes Identified Row in 1st Virtual Forwarding Table and Disconnects the Data Path Between Two Real Service Endpoints
640

FIG 6 - Releasing a Connection - Edge Service Interworking Application

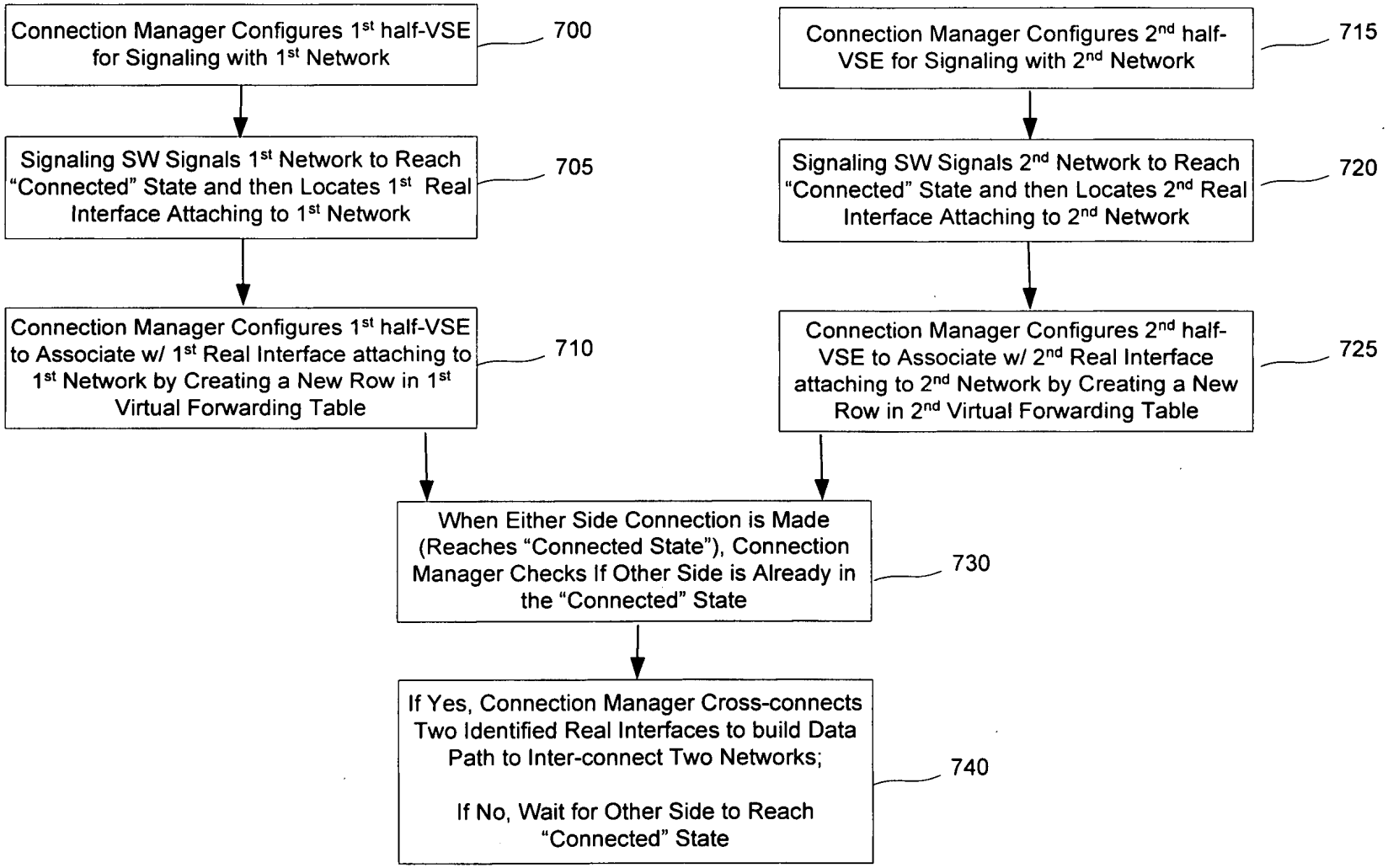
Connection Manager Configures 1st half-VSE for Signaling with 1st Network
700
Signaling SW Signals 1st Network to Reach "Connected" State and then Locates 1st Real Interface Attaching to 1st Network
705
Connection Manager Configures 1st half-VSE to Associate w/ 1st Real Interface attaching to 1st Network by Creating a New Row in 1st Virtual Forwarding Table
710
Connection Manager Configures 2nd half-VSE for Signaling with 2nd Network
715
Signaling SW Signals 2nd Network to Reach "Connected" State and then Locates 2nd Real Interface Attaching to 2nd Network
720
Connection Manager Configures 2nd half-VSE to Associate w/ 2nd Real Interface attaching to 2nd Network by Creating a New Row in 2nd Virtual Forwarding Table
725
When Either Side Connection is Made (Reaches "Connected State"), Connection Manager Checks If Other Side is Already in the "Connected" State
730
If Yes, Connection Manager Cross-connects Two Identified Real Interfaces to build Data Path to Inter-connect Two Networks;
If No, Wait for Other Side to Reach "Connected" State
740

FIG 7 - Establishing a Connection - Gateway Networking Interworking Application

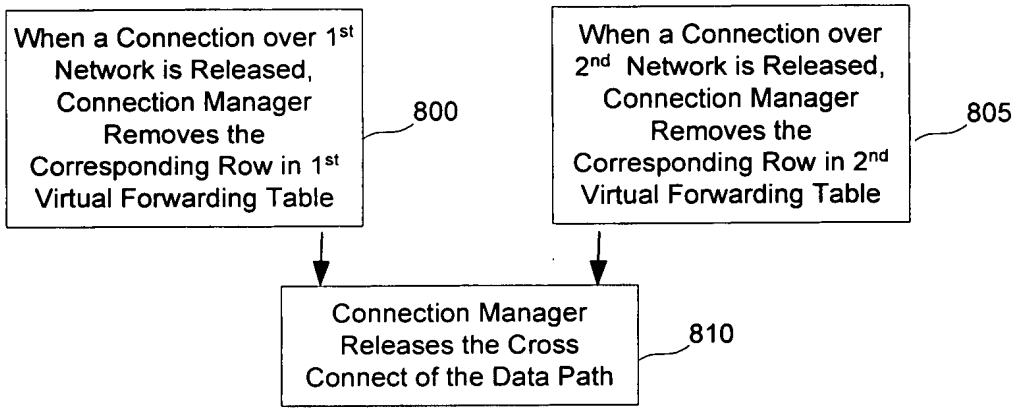
When a Connection over 1st Network is Released, Connection Manager Removes the Corresponding Row in 1st Virtual Forwarding Table
800
When a Connection over 2nd Network is Released, Connection Manager Removes the Corresponding Row in 2nd Virtual Forwarding Table
805
Connection Manager Releases the Cross Connect of the Data Path
810

FIG 8 - Releasing a Connection - Gateway Network Interworking Application